As a preliminary matter and for purposes of appeal, Applicant incorporates by reference the entire set of arguments in support of patentability that were presented in the previous response filed on February 19, 2004.

In the present Office Action, the Examiner repeats the original rejection and at page 7, summarizes certain of the arguments and provides comments with respect to them. Applicants' reply is as follows, but not in the order given by the Examiner:

Variable Number of Bytes in Error Code

One notable distinction raised by the Applicant is that Birdwell does not teach a variable number of bytes in the error correction code, but that the number of bytes is fixed. Applicant has disclosed this feature in great detail at pages 11-16 of the present application. The Examiner responds with particular reference to col. 6, lines 12-26 of Birdwell that the reference teaches that a frame is broken into data fragments, which form blocks of the packets, and the last packet has an error correction trailer containing error correction data positioned after the data block.

The Examiner's position does not address at all the distinction presented by the Applicant and the cited portion of Birdwell does not support the Examiner's assertion. First as to the text of Birdwell, Col. 6, lines 12-26 states as follows:

> The last MPT packet 140(n) has an error correction trailer 162 containing error correction data positioned after the data block 142(n). As an example, the error correction trailer 162 contains a 32-bit CRC (cyclic redundancy check) value that is computed for all preceding MPT packets 140(1)-140(n), which is represented as the bytes within dashed box 164. CRC error checking is a procedure used to check for errors in data transmission. It involves a complex calculation to generate a value based upon the data being transmitted. A CRC value is computed at the transmitter and attached as part of the transmitted packet. The receiver repeats the calculation and compares it to the attached CRC value. If the receiver's

calculation and the attached CRC value match, the transmission of data is assumed to be error-free. CRC is well known and widely used. It is noted that other types of error correction values can be alternatively employed. (emphasis added)

Newton's Telecom Dictionary defines CRC as follows:

> CRC Cyclic Redundancy Check. A process used to check the integrity of a block of data. A CRC character is generated at the transmission end. Its value depends on the hexadecimal value of the number of ones in the data block. The transmitting device calculates the value and appends it to the data block. The receiving end makes a similar calculation and compares its results with the added character. If there is a difference, the recipient requests retransmission. CRC is a common method of establishing that data was correctly received in data communications. See CRC Character.

Clearly Birdwell teaches a FIXED LENGTH ERROR DETECTING CODE that is precisely 32-bit (see col. 6, line 14) and is fixed on the basis of the definition of CRC. There is no variable length error correction code as in the claimed invention. The application at page 3, lines 9-17 states :

> The frame format of the present invention also allows fast synchronization and the exchange of coding information. To enhance the quality of the satellite or wireless link, each frame contains Reed-Solomon (RS) check bytes used for error correction, that can be adaptively changed based on varying link conditions. The number of RS check bytes in a frame can be changed on the fly, without any loss of data, to compensate for varying link conditions. The link quality is monitored, and the observed link quality is used as the criterion for setting the number of RS check bytes in a frame. Further, several frames are interleaved before transmission over the satellite/wireless link to spread the effect of burst errors

over several frames, all of which can then be corrected by the forward error correction (FEC) in the frames. (emphasis added).

Application to Frame Relay

The Applicant distinguished Birdwell for its failure to teach "frame relay" type transmissions, but the Examiner disagrees because the term is applied by the Telecom dictionary to services that employ a form of packet switching analogous to a X.25 network. The Examiner considers the packets in Birdwell to be "frames", which are variable length with the payload. The Examiner states that the network in Birdwell can accommodate data packets of various sizes and asserts that the network data configured in a packet having a data block and header has a variable length.

Again, nowhere in the reference is there any mention of "frame relay," which is a distinctive type of transmission using variable length packets, as clearly disclosed throughout the present application. Thus, Birdwell is distinguishable, as it does not mention frame relay at all. The Examiner's statement that the "packets are frames" serves to emphasize the unconventional definitions and terminology, contrary to well established meanings of these terms, to formulate that rejection. Applicant simply states as to this point that there is no teaching or suggestion that the principles of Birdwell may be applicable to a frame relay application.

Segmenting of Packets

The Applicant asserted that Birdwell does not teach segmenting of packets and formation of smaller packets from each frame relay packet. The Examiner disagrees because the Examiner sees in Birdwell a process of breaking packets into smaller packets for use in a payload transported over a transmission distribution medium.

Again, the segmentation relates to frame relay packets, which are not disclosed as already noted. The Examiner's repeated citation of the teachings at col. 3, lines 1-30 is unavailing because this feature relates to the formation of MPT packets that are of a size appropriate for transmission over the satellite system and are sized to 127 bytes. The Examiner has not addressed this specific deficiency in the broad and generalized dismissal of this clear distinction. As already noted, the process of Fig. 3, which is referenced by the Examiner, involves encoding the network data packet into a variable length MPT frame (step 102) and then encoding the MPT frame into fixed-length MPT packets (step 104), and finally embedding the MPT packets into satellite packets (step 106). The entire MPT packet is embedded into a 127 byte payload of a conventional 147 byte DSS packet. Thus, the packets are placed as the data payload within standard fixed-sized packets suitable for transmission across a particular distribution medium, such as the DSS network. Based on this description, the payload has a fixed length MPT packet and associated header information. Contrary to the Examiner's assertion, this DSS packet does not contain multiple MPT packets. Thus, the claimed step of forming fixed-sized satellite/wireless frames, each containing plural spackets, cannot be found in Birdwell.

Priority of Frame Packets

The Examiner admits that Birdwell fails to disclose queues with priorities. Applicant further argued that the use of priority offers a fundamental feature of the present invention, as it (1) indicates the recognition that different data should have priorities, (2) applies such priorities to the **frame relay** packets and, more importantly, (3) the subdivision of such packets in the form of "spackets." Applicant noted that Anderson does not remedy the deficiencies of Birdwell or otherwise teach how Birdwell could be modified to meet the claim limitations, even excluding the priority feature.

The Examiner disagrees because Anderson is seen to disclose an air interface, RF communication between mobile and base station where queuing and priorities are used to facilitate response to urgent signaling and control messages, as recited at col. 3, lines 45-58.

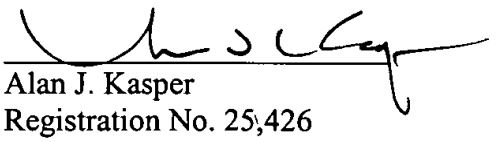
However, this broad assertion with respect to a need for priority in Anderson does not remedy the fundamental deficiency already noted with respect to Anderson in combination with Birdwell. First, there is no teaching or suggestion for modifying Birdwell to implement anything like the priority of Anderson. Birdwell has no indication that different internet protocol data should be treated with different priorities. In the present case, Applicants first prioritizes and then segments, followed by scheduling and forming of fixed sized satellite/wireless frames.

Second, even if combinable, the two references do not teach the order of steps in Applicants' invention. Specifically, there is no teaching of (1) receiving frame relay packets, (2) prioritizing the packets, (3) segmenting the payload to form spackets and (4) scheduling transmission of the spackets in accordance with the priorities of the frame relay packets to which the spackets correspond. This order is not found in Anderson. Moreover, because of this difference, it would not be obvious to one of ordinary skill in the art to modify Birdwell in a manner that could apply the teachings of Anderson.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE
23373
CUSTOMER NUMBER

Alan J. Kasper
Registration No. 25,426

Date: August 3, 2004